

# THE ROYAL WOMEN'S HOSPITAL RESEARCH REPORT 2014

Improving the health and  
wellbeing of women and  
newborns through research  
and innovation



the women's  
the royal women's hospital  
victoria australia

# THE WOMEN'S DECLARATION

The Royal Women's Hospital (the Women's) has led the advocacy and advancement of women's health in Australia for almost 160 years.

As a tertiary level hospital and one of Australia's major teaching hospitals, we are committed to excellence and innovation to improve the health and wellbeing of women and newborns. The Women's Declaration reflects the principles and philosophies fundamental to our hospital.

It captures the themes identified from consultation with our local community, with our staff, and with women from across Victoria.

Our Declaration reflects who we are and what we do.

In everything we do, we value courage, passion, discovery and respect.



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# FOREWORD

We are pleased to present the Royal Women's Hospital (the Women's) 2014 Annual Research Report. Leading the way for our core value of **discovery**, it is truly inspiring to watch our researchers discover new ways to solve the complex problems confronting our women and babies.

Our researchers partner with peers both within the Women's and at other hospitals and universities across Australia and around the world. This year was a defining year for us as the Women's along with other health and academic leaders was designated by the National Health and Medical Research Council as one of the country's first Advanced Health Research and Translation Centres. This designation recognises our leadership in innovative discovery research, research translational activities, the provision of health care and the training of doctors, nurses and other health professionals in an evidence-based environment, at international levels of excellence.

To expand our capacity for discovery, this year we added three new research centres. This means that now, the majority of the research effort at the Women's is undertaken in nine research centres: Women's Mental Health, Women's Infectious Diseases, Pregnancy, Newborn, Midwifery and Maternity Services, Gynaecology, Women's Cancer, Anaesthetics and Allied Health. Each centre is led by researchers who are world leaders in their fields. Collectively in the calendar years 2013 and 2014, these nine Centres were awarded competitive grants worth almost \$24 million and published more than 520 peer-reviewed scientific papers. A number of highlights from this research work are described in this report.

The vision for research at the Women's is built around a number of strategic priorities that include: ongoing commitment to research excellence, embedding health and medical research throughout the Women's, investing in people through research training and developing communications to improve our research profile.

In order to achieve this, the Women's is continually developing our research capability to meet the evolving needs of women and babies in Victoria and further afield. We are committed to the translation of our research to improve healthcare through research and innovation. Our long and distinguished track record in medical research is reflected in the breadth of our current research programs.

Our challenge now is to realise our vision by creating an environment where excellence can flourish and our brightest and best researchers can undertake cutting edge studies aimed at improving the health and wellbeing of not only our patients, but of all people.

The Board and Executive, who recognise the importance of a strong research environment for providing the innovation that delivers better patient outcomes, supports and encourages this internationally recognised work.

Finally, thanks are due to the many people that make research possible at the Women's. This includes the many different funding agencies, our dedicated Human Research and Ethics Committee members, community members who raise money for the Royal Women's Foundation to fund some of our work and, most importantly, the patients who contribute to our research effort through participation in clinical trials and other research activities.

We are proud to share this report with you and look forward to more discoveries in the future.



*Sue Matthews*  
Dr Sue Matthews  
Chief Executive  
Officer



*Peter Rogers*  
Professor  
Peter Rogers  
Director of Research

# 2014 RESEARCH SNAPSHOT

**\$10.53M**

Total research grants held at the Women's

**\$7.39M**

NHMRC grants held at the Women's

**280**

Publications total

**\$5.54M**

Total research grants spent at the Women's

**\$3.38M**

NHMRC grants spent at the Women's

**61**

Clinical trials

**26**

Students: Theses passed

**8**

Doctor of Philosophy

\*University of Melbourne  
Doctor of Medicine (MD)

**11**

Scholarly Selective\*  
Research MD

**6**

Honours

**1**

Master of Science

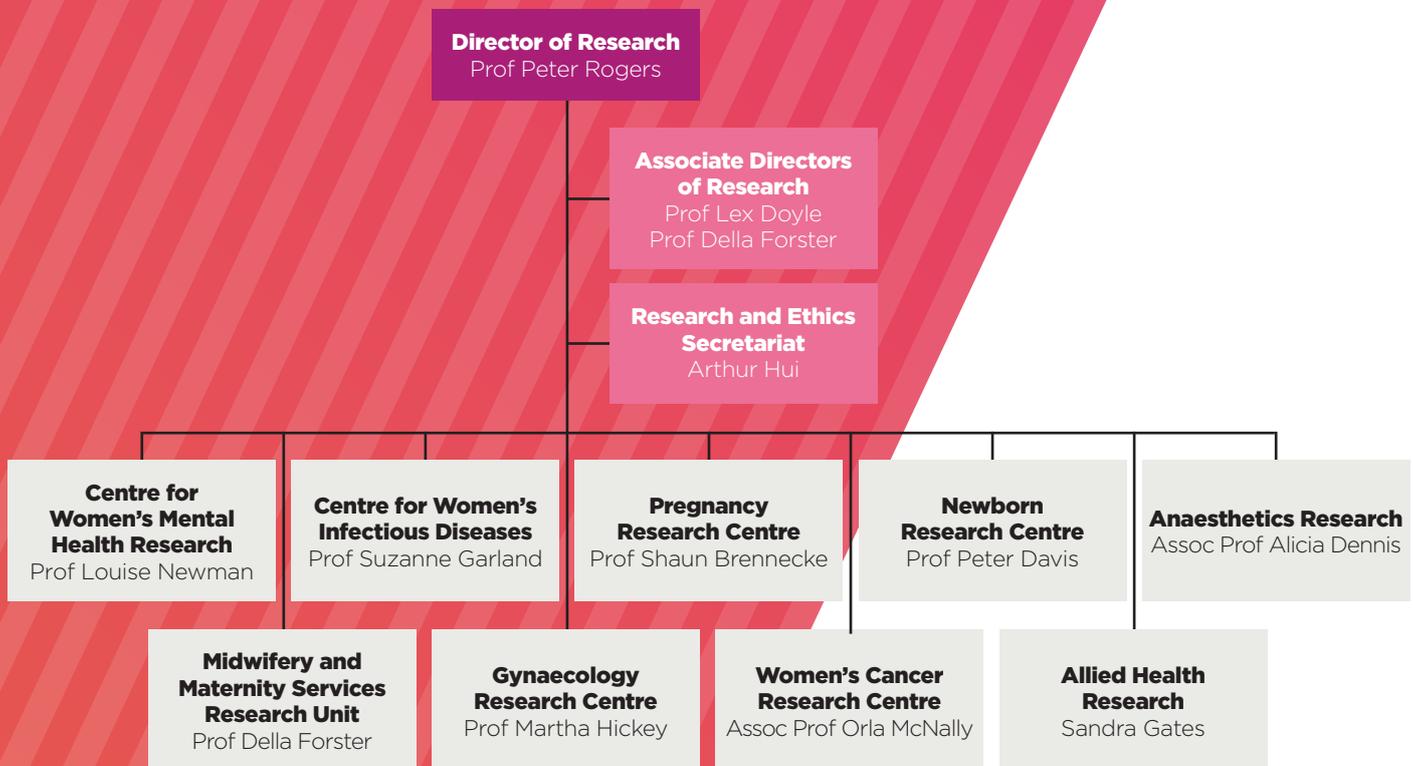
# RESEARCH AT THE WOMEN'S

Established in 1856 – the Women's was Australia's first public hospital for women. It is now Australia's largest specialist public hospital for women, advocating for and advancing the issues of women's health in Australia for almost 160 years.

As a tertiary level hospital and one of Australia's major teaching hospitals, the Women's is internationally recognised for its clinical care and medical research.

Embedding research into our clinical model of care delivers world-class health care for women and babies.

This report provides a snapshot of research in 2014 across all of the Women's nine research centres.





**OUR MISSION  
IS TO GIVE ALL  
BABIES THE  
BEST CHANCE  
TO GROW  
INTO HEALTHY  
ADULTS**



# NEWBORN

# WOMEN'S NEWBORN RESEARCH CENTRE

DIRECTOR: PROFESSOR PETER DAVIS

DEPUTY DIRECTOR: DR JENNIFER DAWSON

The Women's Newborn Research Centre's mission is to give all babies the best chance of growing into healthy adults.

Our biggest challenge lies with the tiniest babies, those weighing less than one kilogram and more than three months premature. In addition to the possibility that these babies may not make it home, those that survive face significantly increased risks relating to their brain development, sight and hearing.

In order to improve the outcomes for tiny and preterm babies we are conducting research into the care given to babies immediately after birth, throughout their time in hospital and during their first critical years at home.

Ongoing long-term studies include determining the effectiveness of magnetic resonance imaging of the brain in very tiny or preterm babies to predict long-term outcome, and to understand the causes of brain injury in very preterm babies.

We continue to evaluate neonatal intensive care in Victoria for babies with birth weights under 1000g or with gestational ages less than 28 weeks. We also contribute to evaluating the outcomes for many randomised controlled trials designed to improve long-term health outcomes for our most vulnerable babies.

## RESEARCH FOCUS

- Ventilation and resuscitation: Investigating techniques of resuscitation in the delivery room and ventilation in the Neonatal Intensive and Special Care nurseries.
- Premature infant follow-up program: Gaining a better understanding of the long-term outcomes for tiny babies well beyond the nursery, including sometimes into adulthood.
- Brain development: Long term neurodevelopmental outcomes and brain structural changes following late preterm birth.

## RESEARCH SUMMARY

Clinical trials:	16
Publications:	82
Grants funding held:	\$3,750,000
Grants funding spent at the Women's:	\$1,980,000

## RESEARCH HIGHLIGHTS

### HELPING PRETERM BABIES BREATHE EASIER

A team at the Newborn Research Centre at the Women's has found that a less expensive, more comfortable method of supporting the breathing of very preterm babies is safe and effective.

Dr Brett Manley, Consultant Neonatologist at the Women's and Senior Lecturer at the University of Melbourne, is a key member of the research team. He received a commendation at the 2014 Premier's Award for Health and Medical Research for his internationally applauded investigation into breathing support for preterm babies.

Traditionally, continuous positive airway pressure (CPAP), which requires larger prongs and cumbersome tubing that is wrapped across the baby's head, has been used to support the breathing of preterm infants. Dr Manley's research investigated the use of high-flow nasal cannulae (HFNC) therapy as an alternative. HFNC, which uses small simple prongs inserted in a baby's nose, causes less irritation to the skin and allows babies to be more easily held by their parents.

The research showed that when used to support very preterm (less than 32 weeks' gestation) babies' breathing after coming off a mechanical ventilator, HFNC was as safe as the CPAP method.



DR BRETT MANLEY

The results of the study were published in the prestigious *New England Journal of Medicine* and HFNC is becoming a more popular alternative to CPAP.

Dr Manley is now working on new clinical trials with the Newborn Research Centre at the Women's.

"We are taking the next steps with our high-flow research, having almost completed a very large trial of this support from soon after birth in preterm infants.

"We have also begun a trial in non-tertiary special care nurseries around Australia, as we think high-flow may be an easy-to-use therapy in this environment."

### **LESS MATURE BRAINS IN MODERATE AND LATE PRETERM BABIES REVEALED**

A study by researchers at the Women's has shown that babies born between 32 to 36 weeks gestation (known as moderate and late preterm) may have smaller and less mature brains than babies born at full term.

Despite moderate and late preterm (MLPT) babies accounting for approximately 80 per cent of all preterm births, the majority of research studies on preterm babies has focused on those babies born at less than 30 weeks gestation. Babies born MLPT were previously thought to have the same risk of developmental concerns as those born full term. Overseas research in the last five to eight years, however, has highlighted that these children may go on to have learning difficulties.

The researchers, led by Associate Professor Jeanie Cheong, a Neonatal Paediatrician, in collaboration with Professor Lex Doyle, Associate Professor Peter J. Anderson and Dr Katherine Lee, and with funding from the National Health and Medical Research Council, recruited 201 MLPT children, as well as 50 full term children and assessed their development at two years of age. Using magnetic resonance imaging (MRI) they found that brain features of the MLPT children were different to those born full term.

"We found that babies born at 32 to 36 weeks had smaller brain sizes in various measurements and less mature brains than those born full term," said Associate Professor Cheong.

The findings were published in the American journal *Radiology* in July 2014.

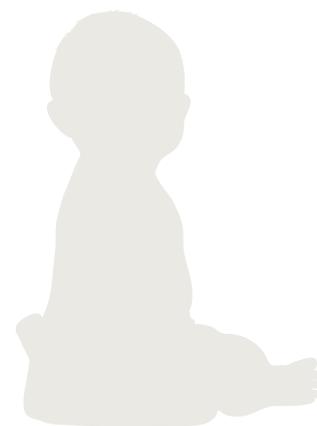
According to the study's lead author, Dr Jennifer Walsh, the findings suggest that MLPT birth may disrupt the expected trajectory of brain growth that would normally occur in the last two months in utero.

The researchers hope to explore in greater depth the impact that MLPT birth has on the brain, so that they can trial different treatments designed to improve brain function and long-term outcome in these babies.

The researchers plan to follow the babies in the study group through childhood to learn more about the relationship between brain features and later outcomes.

*"We have begun a trial in non-tertiary special care nurseries around Australia, as we think high-flow may be an easy-to-use therapy in this environment."*

*Dr Brett Manley,  
Consultant Neonatologist*



# THE HPV VACCINE WORKED AND WAS EFFECTIVE IN A PUBLIC HEALTH PROGRAM



PROFESSOR SUZANNE GARLAND



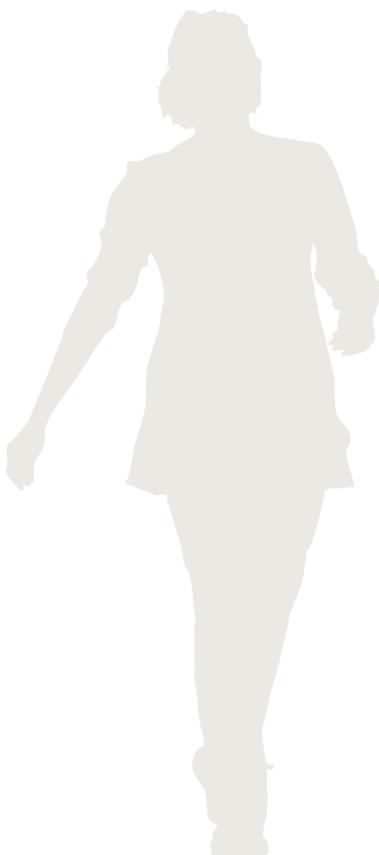
# INFECTIOUS DISEASES

## CENTRE FOR WOMEN'S INFECTIOUS DISEASE

DIRECTOR: PROFESSOR SUZANNE M. GARLAND  
SENIOR SCIENTIST: ASSOCIATE PROFESSOR SEPEHR TABRIZI

The Centre for Women's Infectious Diseases (CWID) conducts clinically based research, in addition to providing molecular diagnostics for the detection of infections within obstetrics, paediatrics, gynaecology and neonatology.

*Emphasis is placed on providing evidence for changes that translate into clinical practice.*



In 2009, the CWID moved to the Bio21 Institute; the first clinical group to be located in the University of Melbourne's core research and development facility. Situated next door to, and supported by the Women's, CWID maintains affiliations with the University's Faculty of Medicine, Dentistry and Health Sciences and Department of Obstetrics and Gynaecology.

Our key research areas include cervical cancer, sexual health and mother-to-baby infections. Emphasis is placed on providing evidence for changes that translate into clinical practice. Recent and ongoing research activity includes monitoring the effectiveness of HPV vaccination; preventing sepsis in premature infants and investigating the cause of common gynaecological infections.

### RESEARCH FOCUS

- Surveillance: human papillomavirus (HPV) vaccine effectiveness; antimicrobial (drug) resistance (*M.genitalium*, *N.gonorrhoeae*, GBS)
- The health of women and babies: Probiotics in prevention of sepsis in premature infants
- Young females health initiative using social media to evaluate young women's health patterns
- Biomarkers of disease: Targeted detection of disease markers
- Molecular diagnosis: Rapid diagnostics for sexually transmitted reproductive tract infections
- Discovery: Cause of some gynaecological infection (urethritis and bacterial vaginitis)

### RESEARCH SUMMARY

Clinical trials:	2
Publications:	47
Grants funding held:	\$2,791,000
Grants funding spent at the Women's:	\$1,400,000

### RESEARCH HIGHLIGHTS

#### CERVICAL CANCER VACCINE PROVIDING POPULATION-WIDE PROTECTION

Research led by the Women's and published internationally showed that the national program to vaccinate school-aged girls and boys with the "anti-cervical cancer" vaccine provided population-wide protection against the virus responsible for most cases of cervical cancer.

Vaccination with Gardasil is intended to prevent infection with the human papillomavirus (HPV) types that cause 70 per cent of cervical cancer. Six years after the vaccination program started, the findings confirmed that infection with these particular types of HPV, in people who have been vaccinated, was reduced by 77 per cent.

The Women's Associate Professor Sepehr Tabrizi, who was a co-lead author on the study, said the team's findings also suggested that the vaccine provided protection against three other very similar types of HPV that are not in the vaccine as well as provide some protection in unvaccinated women (herd immunity).

According to Associate Professor Tabrizi, these findings do not suggest it is safe to not have the vaccine: "You cannot opt out of the vaccine and assume you will be protected. But by having the vaccination, you are not just lowering your risk of you or your sexual partners getting genital warts or cervical cancer, you are also helping the rest of the community."

"It's also important to remember," said Associate Professor Tabrizi, "that all women - whether they've had the vaccine or not - should continue to participate in the Pap screening program to check for abnormalities that can lead to cervical cancer."

*"By having the vaccination... you are also helping the rest of the community."*

*Associate Professor  
Sepehr Tabrizi*

PROFESSOR MARTHA HICKEY

A close-up portrait of Professor Martha Hickey, a woman with short dark hair and light-colored eyes, looking slightly to the right. The image is overlaid with a pattern of diagonal lines in shades of brown and grey. A red triangle is visible in the bottom right corner.

# OFFERING ACCURATE AND EVIDENCE-BASED ADVICE TO WOMEN



# GYNAECOLOGY

## WOMEN'S GYNAECOLOGY RESEARCH CENTRE

DIRECTOR: PROFESSOR MARTHA HICKEY  
DEPUTY DIRECTOR: PROFESSOR PETER ROGERS  
ASSOCIATE DIRECTOR: DR JANE GIRLING

*"There is still very little information available to help women make an informed decision about having their ovaries removed."*

*Professor Martha Hickey,  
Gynaecology Research Centre*

As the largest specialist public hospital for women in Australia, the Women's is ideally placed to lead international academic gynaecological research. We demonstrated our commitment to leadership in this area with the launch of the Women's Gynaecology Research Centre (WGRC).

As the first centre in Australia to bring together clinical and laboratory expertise to investigate a wide range of common gynaecological conditions, the WGRC's research provides greater understanding of common gynaecological conditions.

This enhanced understanding will improve prevention, diagnosis and management of a wide range of conditions including adverse menopausal symptoms, menopause after cancer, heavy and abnormal menstrual bleeding; endometriosis, uterine fibroids, pelvic pain, infertility and sexual health dysfunction due to cancer treatment.

### RESEARCH FOCUS

- Genetic factors linked to endometriosis
- Molecular mechanisms of heavy menstrual bleeding
- Fertility preservation tools following cancer diagnosis
- Synchrotron microbeam radiotherapy: optimising treatment for cancer patients
- Women's health after surgical menopause: impact on menopause symptoms, sexual function, bone health and risk factors for cardiovascular disease
- Sexuality after breast cancer treatment: a study comparing vaginal lubricants

### RESEARCH SUMMARY

Clinical trials:	5
Publications:	24
Grants funding held:	\$1,410,000
Grants funding spent at the Women's:	\$934,000

### RESEARCH HIGHLIGHTS

#### WOMEN'S HEALTH AFTER SURGICAL MENOPAUSE

For young women with the BRCA1 or 2 gene mutation, surgery to remove normal fallopian tubes and ovaries will significantly reduce the risk of ovarian and breast cancer. The surgery comes at a cost, however, as it will initiate menopause, end fertility and, for many young women, trigger severe sexual dysfunction.

In a world-first study, called What Happens after Surgical Menopause? (WHAM), an international team led by Professor Martha Hickey of the Gynaecology Research Centre, is investigating the short and long-term outcomes, benefits and harm of removing the ovaries in order to reduce the risk of ovarian cancer in high risk women.

WHAM will examine the impact on health, in particular sexual function, bone density, heart risk and the severity of menopause symptoms. Results of women identified with the gene mutations will be compared with those of a control group. This information will help clinicians offer accurate and evidence-based advice to women who are considering having the surgery to remove their fallopian tubes and ovaries.





PROFESSOR PETER ROGERS

### IDENTIFYING THE GENES THAT INCREASE THE RISK OF ENDOMETRIOSIS

*“The goal is to find the genes that increase the risk of endometriosis so that we can develop therapies to cure it.”*

*Professor Peter Rogers, Research Director at the Women’s and Professor of Women’s Health Research at the University of Melbourne*

Australia is one of the world leaders in research into endometriosis, a chronic gynaecological disorder causing pelvic pain, period problems, scarring and tissue damage. Endometriosis is thought to affect around one in 12 women and is one of the leading causes of infertility; between 40 and 50 per cent of women undergoing IVF treatment in Australia also suffer endometriosis.

Funded by the National Health and Medical Research Council (NHMRC), a team that includes researchers from the Women’s, the University of Melbourne and QIMR Berghofer Medical Research Institute in Queensland, is working to identify the genes responsible for endometriosis.

Professor Peter Rogers, Research Director at the Women’s and Professor of Women’s Health Research at the University of Melbourne says that funding research and developing a multidisciplinary approach to that research was the key for an effective, accurate and timely diagnosis and to identify women at risk of endometriosis.

“The goal is to find the genes that increase the risk of endometriosis so that we can develop therapies to cure it.”

### PRESERVING THE FERTILITY OF CHILDREN AND TEENAGERS FOLLOWING CANCER DIAGNOSIS

With 80 per cent of young people surviving cancer, it is becoming increasingly important to understand the effects of cancer treatment on fertility.

Research by the late Dr Sarah Drew (Royal Children’s Hospital) identified a lack of information for families and children about fertility preservation. Developing best clinical practice in this area relies on multidisciplinary integration of the adult and paediatric sector.

The Paediatric and Adolescent Fertility Preservation Task Force; a collaborative project with members from four VCCC partners (The Women’s, Royal Children’s, Monash Medical Centre, and the Peter MacCallum Cancer Centre) was developed.

Collaboratively, the taskforce led by Dr Yasmin Jayasinghe, developed the first Australian Paediatric and Adolescent Fertility Preservation database for monitoring of safety and efficacy data. They identified that most clinicians desire guidance in confronting the ethical challenges posed by this issue, such as concerns around consent; the effectiveness of fertility preservation and the timing of discussions about fertility which occur soon after a cancer diagnosis. The Taskforce is also examining decisional acceptance in patients and families around this sensitive time.

The Taskforce developed and implemented a fertility preservation toolkit, containing a suite of reference information alongside practice guides for discussion of fertility preservation with patients and their families.

They are currently developing an improved Fertility Preservation Decision Aid for families of children and teenagers with cancer.

“We hope that this will help doctors and families discuss these sensitive issues at a very emotional time. We are continuing the legacy of the work that Dr Drew started, in order to develop transparency, governance and pathways of equitable care for our patients and families,” she said.

Dr Jayasinghe is funded by the Victorian Cancer Agency.



**OUR MISSION  
IS TO BETTER  
UNDERSTAND  
THE CAUSES  
OF PREGNANCY  
DISORDERS**



# PREGNANCY

## WOMEN'S PREGNANCY RESEARCH CENTRE

DIRECTOR: PROFESSOR SHAUN BRENNECKE  
DEPUTY HEAD OF RESEARCH: DR BILL KALIONIS

*“Many women who have had pre-eclampsia are unaware that they are at higher risk of cardiovascular disease in later life.”*

*Professor Shaun Brennecke  
Director, Women's Pregnancy  
Research Centre*

While most women enjoy a trouble free pregnancy and birth, a significant number will experience complications. Unfortunately, we do not always know what causes many of these complications or how best to prevent or treat them.

The Women's Pregnancy Research Centre's (PRC) mission is to better understand the causes of pregnancy disorders that compromise the health of mothers and their babies. Common pregnancy complications such as miscarriage, pre-eclampsia, fetal growth restriction, gestational diabetes and preterm labour create significant emotional, social and economic costs within our community. Reducing the incidence or severity of pregnancy complications will significantly diminish these costs.

Our work on pregnancy and its disorders ranges from basic biomedical laboratory research through to clinical studies, treatment trials and public health initiatives. We use our findings to promote evidence-based, best clinical practice.

Mothers and their babies are the primary beneficiaries of our research.

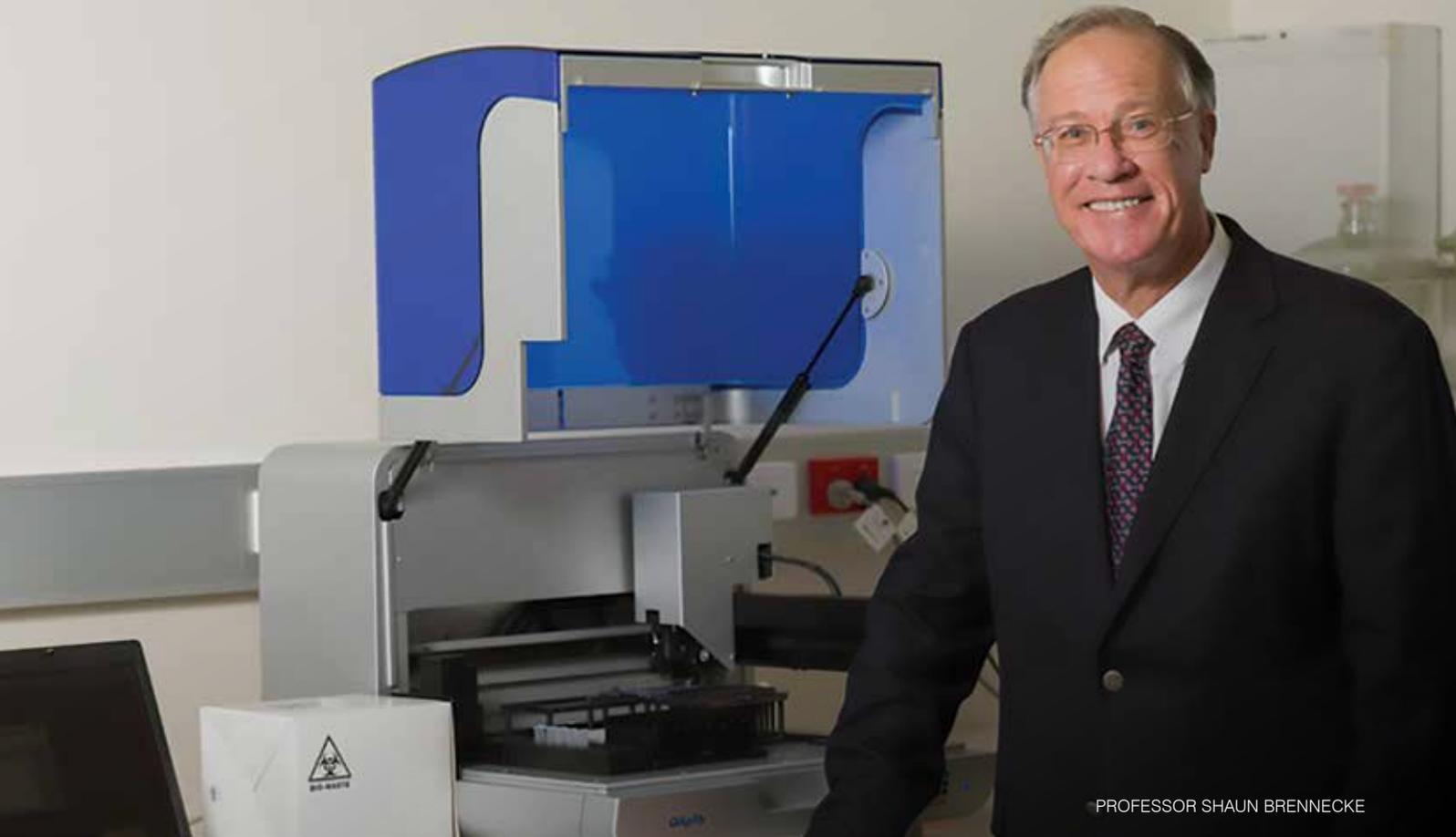
### RESEARCH FOCUS

- Labour and delivery: Understanding triggers of labour in obese women
- The placenta and its stem cells: Therapeutic applications
- Pre-eclampsia and fetal growth restriction: Trials of biomarkers, predictors and treatment options
- Fetal welfare assessment and improving perinatal care
- Multiple pregnancy

### RESEARCH SUMMARY

Clinical trials:	7
Publications:	51
Grants funding held:	\$732,000
Grants funding spent at the Women's:	\$390,000





PROFESSOR SHAUN BRENECKE

## RESEARCH HIGHLIGHTS

### UNLOCKING THE KEY TO TRIGGERING LABOUR

Pregnant women who are overweight often go past their expected due date or progress slowly once they begin to labour. They also have higher rates of medical intervention around labour and birth, including higher rates of induction and caesarean section.

With 52 per cent of Australian women being overweight, the proportion of overweight women in pregnancy is rising. Increased complications of labour and birth are linked to being overweight before pregnancy and excessive weight gain during pregnancy.

In a world-first, researchers from the Women's, Monash University, the University of Melbourne and the Hunter Medical Research Institute have identified an electrical switch in the muscle of the uterus.

After studying uterine muscle biopsies from 70 pregnant women from the Women's, the researchers, including the Women's Professor Shaun Brennecke and Dr Penny Sheehan, found a uterine muscle ion channel that conducts electricity controlling contractions of the uterus. This channel does not function properly in overweight mothers, resulting in long labours that put the mother and baby at risk and higher rates of Caesarean delivery.

This is the first time that the switch and the 'molecular hand' controlling it have been identified in uterine muscle. The next stage is to develop a safe, effective and specific treatment to correct the problem; for example, a drug to stimulate the 'molecular hand' to turn the switch to off.

### PRE-ECLAMPSIA: A PREDICTOR OF CARDIOVASCULAR DISEASE IN LATER LIFE

Pre-eclampsia, where women develop dangerously high blood pressure and kidney problems, is the most common serious medical disorder of pregnancy. In Australia, mild pre-eclampsia occurs in five to eight per cent of pregnancies and severe pre-eclampsia in one to two per cent of pregnancies.

Women who have had pre-eclampsia during pregnancy are at an increased risk of cardiovascular disease in later life by two or four times, an increase similar to that caused by smoking. The Women's Professor Shaun Brennecke has been undertaking research to determine the link between pre-eclampsia and cardiovascular disease (CVD).

In a large international study he and his colleagues have found a shared genetic mechanism underlying both pre-eclampsia and CVD. Identification of pre-eclampsia susceptibility genes may enable early predictive therapies for pre-eclampsia and related conditions such as CVD.

"Many women who have had pre-eclampsia are unaware that they are at higher risk of cardiovascular disease in later life, or what they can do to reduce the risk," Professor Brennecke said.

The research highlights the need for women to be alert to the risks in later life following pre-eclampsia and to make their GP aware for their need of ongoing monitoring.



**WOMEN WHO  
ARE ON CLINICAL  
TRIALS TEND  
TO HAVE BETTER  
OUTCOMES**

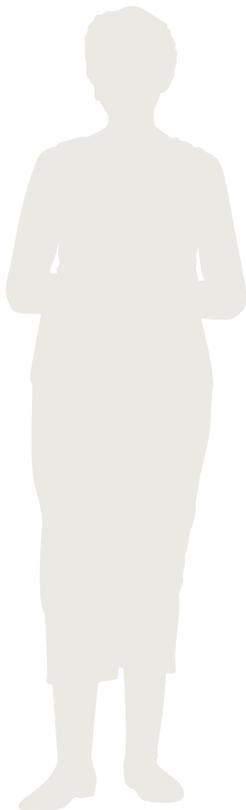


# CANCER

## WOMEN'S CANCER RESEARCH CENTRE

DIRECTOR: ASSOCIATE PROFESSOR ORLA MCNALLY,  
DIRECTOR GYNAECOLOGY TUMOUR STREAM VCCC

*We share the vision of the Victorian Comprehensive Cancer Centre (VCCC) – to save lives through the integration of cancer research, education and patient care.*



Behind our work in the Women's Cancer Research Centre (WCRC) lies the philosophy that every woman should be afforded the opportunity to take part in research at every stage of her journey.

Not only does our experience show that many patients want to be involved in these opportunities when they arise, there is also evidence that patients who participate in research and clinical trials have better health outcomes.

Our current research focus is on gynaecological cancer, including ovarian, uterine, fallopian tube and cervical cancers; pre-cancer and risk reduction; and gestational trophoblastic disease (molar pregnancy). We are conducting a large number of clinical trials in the medical and surgical treatment of cancers and in the screening and detection of cancers.

We attract researchers with diverse multidisciplinary expertise, who are recognised as leaders in their field. Our aim is to facilitate co-operative working between these experts for the clinical benefit of our patients, research productivity and innovation.

We share the vision of the Victorian Comprehensive Cancer Centre (VCCC) – to save lives through the integration of cancer research, education and patient care. We have collaborated extensively with the VCCC and remain focused on better outcomes for women in the prevention, detection and treatment of cancer.

### RESEARCH FOCUS

- Gynaecological cancer: ovarian, uterine, fallopian tube, cervical
- Pre-cancer/risk reduction: dysplasia, familial cancer syndromes
- Gestational trophoblastic disease: pregnancy

### RESEARCH SUMMARY

Clinical trials:	24
Publications:	34
Grants funding held:	\$313,000
Grants funding spent at the Women's:	\$363,000



JULENE, CLINICAL RESEARCH NURSE AND TRICIA, CANCER PATIENT (WEARING A COLD CAP TO REDUCE HAIR LOSS DURING CHEMOTHERAPY)

## RESEARCH HIGHLIGHTS

### PARTICIPATING IN RESEARCH IMPROVES PATIENT OUTCOMES

The Women's gynae-oncology unit recruits 30 per cent of all new patients into clinical trials. Given that the national average is five per cent and the recommended target is ten per cent, it's a figure of which we're extremely proud.

We place the patient at the centre of our model of care and research is embedded within the model of care for every patient. Evidence tells us that many women not only want to be involved in clinical trials and research, but that they benefit from their involvement.

"The reality is that women who are on clinical trials, no matter what the trial is for, tend to have better outcomes," says Associate Professor Orla McNally.

### SENTINEL LYMPH NODE DETECTION: LESS INVASIVE SURGERY FOR WOMEN WITH ENDOMETRIAL CANCER

*The Women's Associate Professor Orla McNally is recognised as an Australian leader in the trialling of innovative treatments for gynaecological cancer.*

Endometrial cancer, affecting the lining of the uterus, is the most common gynaecological cancer. In Australia, approximately 2000 women are diagnosed with the disease each year.

Traditional treatment of endometrial cancer removes all of the surrounding lymph nodes, resulting in invasive surgery and significant side effects for the patient.

In a bid to develop a less drastic intervention for women with early stage endometrial cancer, a study led by Associate Professor Orla McNally, is examining the feasibility of detecting 'sentinel' lymph nodes. Sentinel lymph nodes are those that are closest to the cancer. If the sentinel lymph nodes are not affected by cancer, then the surrounding nodes need not be removed.

In the study, the first of its kind in endometrial cancer in Australia, two different techniques were used to detect sentinel lymph nodes: a blue dye and radiocolloid (radioactive marker). The study has shown that the use of the two techniques together significantly increases detection rates of the sentinel lymph nodes.

Associate Professor McNally will lead the sentinel lymph node sub-study as part of an international clinical trial in endometrial cancer funded by the NHMRC expected to commence in 2016.

PROFESSOR DELLA FORSTER WITH BABY JUNO,  
PART OF THE COSMOS PROJECT

A photograph of a woman holding a baby in a hospital setting. The woman is wearing a blue and white patterned top and has a white cord around her neck. The baby is wearing a light green onesie. The background is a blurred hospital room with other people and equipment. The text is overlaid on the bottom right of the image.

**OUR AIM IS  
TO DECREASE  
UNNECESSARY  
INTERVENTIONS  
IN CHILDBIRTH**



# MIDWIFERY

# MIDWIFERY AND MATERNITY SERVICES RESEARCH UNIT

DIRECTOR: PROFESSOR DELLA FORSTER

The Midwifery and Maternity Services Research Unit is dedicated to exploring the care we provide to women attending the hospital for pregnancy care and to give birth to ensure it is high quality evidence-based care and, as part of this, to actively seek the views of women and staff on their experiences.

*The Women's helped to write the new breastfeeding guidelines for Victoria.*

Areas of research focus include increasing the percentage of women who initiate and continue breastfeeding and exploring the best way to provide support for women during pregnancy, birth and the early postnatal period. The Midwifery and Maternity Services Research Unit also aims to decrease unnecessary interventions in childbirth.

Another key aspect is the focus on building research capacity of the Women's midwives, nurses and allied health clinicians.

## RESEARCH FOCUS

Major studies in 2014 included:

- COSMOS – Comparing standard maternity care with one to one midwifery support: a randomised controlled trial
- MILC – Mothers and infant lactation cohort study
- DAME – Diabetes and antenatal milk expressing trial: a randomised controlled trial
- RUBY – Ringing up about breastfeeding: a randomised controlled trial
- Victorian Breastfeeding Guidelines: a tender for the State Government.

## RESEARCH SUMMARY

Clinical trials:	2
Publications:	14
Grants funding held:	\$1,040,000
Grants funding spent at the Women's:	\$221,000

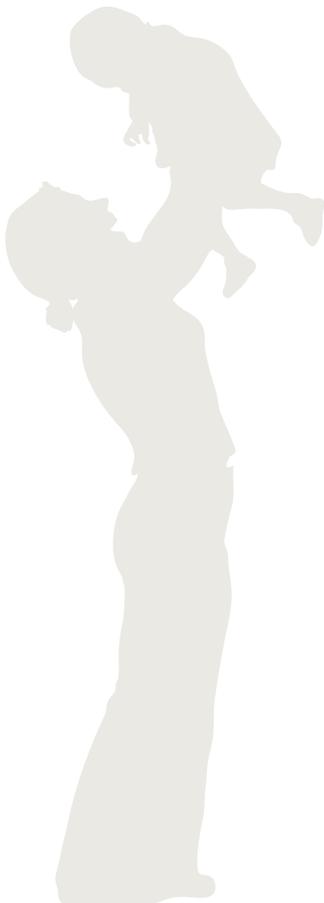
## RESEARCH HIGHLIGHTS

### REDUCING THE NUMBERS OF CAESAREAN SECTION BIRTHS THROUGH MODELS OF MIDWIFERY CARE

Internationally and in Australia there is concern about the growing proportion of women giving birth by caesarean section.

In a randomised controlled trial, Comparing Standard Maternity Care with One-to-One Midwifery Support (COSMOS), caseload midwifery care (where women are cared for by a known midwife) was compared with standard midwifery care.

The results showed that caseload midwifery care for women at low risk of medical complications decreases the proportion of women delivering by caesarean section compared with women receiving standard midwifery care. Infants born to women receiving caseload care were also less likely to be admitted to special or neonatal intensive care.





COSMOS PROJECT - MIDWIFE JUANITA WITH MOTHER CATHY AND BABY JUNO

*“Results from this study are being used for maternity reform across Australia.”  
Professor Della Forster*

“Results from this study are being used for maternity reform across Australia,” said Professor Della Forster, Director of Midwifery and Maternity Services Research Unit.

In a follow-up study Professor Forster and colleagues (including Michelle Newton, who undertook her PhD on this aspect of COSMOS) explored midwives’ attitudes to their professional role and measured burnout in caseload midwives compared to standard care midwives and found that caseload midwives had more positive views of their professional role and lower burnout scores.

“Further research needs to explore factors that influence midwives’ decisions about working in this model of care,” Professor Forster said.

#### **DEVELOPING NEW GUIDELINES TO PROMOTE AND SUPPORT BREASTFEEDING**

Breastfeeding is the normal way for babies to receive nutrients for their optimum growth and development; however women often describe breastfeeding information and advice as inconsistent.

As such, it is important to have up-to-date breastfeeding guidelines that give consistent and reliable information for women and health care professionals.

The Midwifery and Maternity Services Research Unit, in partnership with colleagues at the Judith Lumley Centre at La Trobe University are Australian leaders in breastfeeding research and together were involved in the development of the new Victorian Breastfeeding Guidelines, released in August 2014. The guidelines were funded by the Department of Education and Early Childhood Development, Victorian Government. The revision was written by the Women’s Anita Moorhead, clinical midwife consultant in lactation, and Associate Professor Lisa Amir. It is the first major update of the guidelines in 16 years. The guidelines aim to protect, promote and support breastfeeding in Victoria.

#### **EXAMINING THE EFFECT OF EXPRESSING BREAST MILK ON BREASTFEEDING**

The Mothers and Infant Lactation Cohort Study (MILC) examined infant feeding practices of mothers and their healthy full term infants while they were in hospital, the focus on breastfeeding initiation and prevalence of breast milk expression. Mothers were interviewed at six months postpartum. MILC was led by Professor Forster, and formed the PhD of Helene Johns.

The study of over 1000 women found that early breastfeeding problems were common, with less than half of the infants being fed only at the breast in the first days of life. Almost 50 per cent of babies received at least some expressed breast milk, with a similar proportion of first-time mothers in possession of a breast pump prior to birth. At six months, infants who had received either expressed breast milk or infant formula were less likely to be receiving any breast milk at all, compared to those infants who fed only directly at the breast while in hospital after birth.

Given the normalisation of breast milk expression, more evidence is needed regarding its impact on breastfeeding outcomes.

PROFESSOR LOUISE NEWMAN, DIRECTOR OF  
THE CENTRE FOR WOMEN'S MENTAL HEALTH.

**EXPERT SUPPORT  
FROM PREGNANCY  
ONWARDS  
CAN REDUCE  
PSYCHOLOGICAL  
DISTRESS**



# MENTAL HEALTH

## CENTRE FOR WOMEN'S MENTAL HEALTH

DIRECTOR: PROFESSOR LOUISE NEWMAN

*“Preventive and targeted expert support from pregnancy onwards can reduce psychological distress among mothers-to-be and enhance the relationship they are able to form with their baby from birth.”*

*Dr Susan Nicolson, Centre for Women's Mental Health*

The Centre for Women's Mental Health recognises that the determinants of mental health and mental illness include biological, psychological, social, environmental and economic factors, and are strongly linked with an individual's physical health. Gender, increasingly, is also being recognised as a significant determinant of mental health.

Promotion of mental health and the prevention of mental illness are important components of all clinical services at the Women's. Staff from diverse areas within the hospital are involved in multidisciplinary mental health research. Our research aims to improve mental health as well as reduce the prevalence and burden of mental health problems and mental illness.

Conducted within a population health framework that takes into account the complex influences on mental health, our research encourages a holistic approach to improving mental health and wellbeing. We develop evidence based interventions that meet the identified needs of population groups, and span from prevention to recovery and relapse prevention.

### RESEARCH FOCUS

- Promotion of women's mental health across the life span – developmental model focusing on adaptation and coping with adversity, illness and trauma
- Perinatal and infant mental health – risk and mental disorder in pregnancy and perinatal period and impact on parenting and infant development; integrated model from (pre) conception to early infancy

- Development of better approaches to engagement, assessment and intervention for vulnerable groups – young women, women experiencing trauma and violence, refugees and asylum seekers
- Evaluation of supports and intervention for women and families impacted by cancer, pain and chronic conditions

### RESEARCH SUMMARY

Clinical trials:	3
Publications:	23
Grants funding held:	\$366,000
Grants funding spent at the Women's:	\$140,000

### RESEARCH HIGHLIGHTS

#### HELPING YOUNG MOTHERS BOND WITH THEIR BABIES

Depression, anxiety and stress around the time of having a baby are not uncommon for Australian women. They can affect a woman's ability to cope with the demands of motherhood and to bond with her baby. Adolescent mothers may experience more distress than adult mothers and their infants are particularly at risk of attachment relationship difficulties.



DR SUSAN NICOLSON AND THE NEWBORN BEHAVIOURAL OBSERVATION PROGRAM

Preliminary research at Women's has shown that a brief attachment intervention, added to routine hospital maternity care, assists with the transition to motherhood for pregnant adolescents by improving the quality of the relationship they are able to form with their infant.

According to Dr Susan Nicolson, from the Centre for Women's Mental Health (CWMH), the brief intervention set out to help teenage mothers see their baby as a person, support their self-esteem in their role as a mother, and to increase the potential for mutual enjoyment in the mother-infant relationship.

"Preventive and targeted expert support from pregnancy onwards can reduce psychological distress among mothers-to-be and enhance the relationship they are able to form with their baby from birth," Dr Nicolson said.

One such promising support is the Newborn Behavioural Observations (NBO) training program. In a preliminary overseas randomised trial, the NBO was linked to a five-fold reduction in depression symptoms in new mothers. Further research is now planned at The Women's to test the effectiveness of the NBO among first time parents with maternal depression symptoms in pregnancy.

More than 300 professionals across Australia have taken advantage of the national NBO training program run by Dr Nicolson with Associate Professor Campbell Paul at the CWMH. At the invitation of the Brazelton Institute at Harvard University, they have also trained 30 neonatology specialists in China and 25 home visitors in South Africa.

#### **MINDBABYBODY: REDUCING MATERNAL ANXIETY, DEPRESSION AND STRESS**

Mental health issues, such as anxiety, stress and depression are common in the transitional period from pregnancy to the early days and weeks of parenting.

A pilot study found significant improvements in expectant mothers' scores relating to depression, anxiety and mindfulness after undertaking a group program designed to reduce maternal anxiety and stress.

The program, MindBabyBody, developed by the CWMH and delivered in six weekly two-hour sessions to pregnant women as part of their antenatal care at the Women's, focused on reducing maternal stress and anxiety by increasing self-awareness and acceptance through meditation-based practices.

According to Dr Kristine Mercuri, Consultant Psychiatrist and Facilitator of the program, its success suggests that MindBabyBody can be safely incorporated into routine maternity care.

The preliminary outcomes from the study showed that the MindBabyBody program can improve women's wellbeing during pregnancy in both at-risk groups and in the general population.

The results from this study will inform a larger study investigating antenatal and postnatal programs to support mothers and their babies.

ASSOCIATE PROFESSOR ALICIA DENNIS,  
DIRECTOR OF ANAESTHESIA RESEARCH



# THE FIRST OBSTETRIC ANAESTHESIA DEPARTMENT IN AUSTRALIA



# ANAESTHETICS

## ANAESTHETICS RESEARCH

DIRECTOR: ASSOCIATE PROFESSOR ALICIA DENNIS

*“There has been no decrease in the prevalence of pre-eclampsia over the last 50 years. We were looking for a unified theory to explain why so many pregnant women developed this condition.”*

*Associate Professor Alicia Dennis*



The Women’s Department of Anaesthesia, the first obstetric anaesthesia department in Australia, has a long history of research, teaching, education and innovation.

In one active research program, and in a world-first, we are undertaking one of the largest cardiac magnetic resonance studies in healthy pregnant women and women with pre-eclampsia. Using heart ultrasound (transthoracic echocardiography), the project will improve our understanding of healthy heart function in pregnant women and changes in the hearts of women with pre-eclampsia.

We currently have 12 ongoing research projects including two international multi-centre collaborative projects.

### RESEARCH FOCUS

- Understanding heart function and structure in women with pre-eclampsia and mechanisms of high blood pressure in these women
- Translating our research work using cardiac ultrasound into clinical practice. Using cardiac ultrasound to examine critically ill pregnant women’s hearts at the bedside to help guide management

### RESEARCH SUMMARY

Clinical trials:	2
Publications:	13
Grants funding held:	\$38,000
Grants funding spent at the Women’s:	\$31,000

### RESEARCH HIGHLIGHTS

#### THE CONNECTION BETWEEN FETAL OXYGEN NEEDS AND PRE-ECLAMPSIA

In an ambitious project researching the causes of pre-eclampsia, the Women’s Associate Professor Alicia Dennis, Director of Anaesthesia Research and co-author Dr Julian Castro, a cardiologist at St Vincent’s Hospital, have posited that the cause of the potentially deadly condition of pre-eclampsia may be the unique response of women to the oxygen demands of a growing fetus.

‘There has been no decrease in the prevalence of pre-eclampsia over the last 50 years. We were looking for a unified theory to explain why so many pregnant women developed this condition,’ wrote Associate Professor Dennis in the international journal Anaesthesia.

The project took Associate Professor Dennis to Cape Town, South Africa to investigate heart function and structure in women with pre-eclampsia or HIV. Using heart ultrasound, the researchers discovered socioeconomic conditions and geographical location have little impact on heart function and structure in women with pre-eclampsia.

This finding helped to create the unified theory of pre-eclampsia which proposes that pre-eclampsia is an adaptive, not maladaptive condition that develops when there is imbalance between the woman’s ability to deliver oxygen to her baby and her baby’s requirement for oxygen.

The innovative heart ultrasound techniques developed in our research studies are being used to help in the management of critically ill pregnant women thereby translating our research into practical applications for clinicians and improved outcomes for pregnant women.



*We are undertaking one of the largest cardiac magnetic resonance studies in healthy pregnant women and women with pre-eclampsia.*



**ALLIED  
HEALTH  
RESEARCH IS  
CONTINUING  
TO DEVELOP  
AND GAIN  
MOMENTUM**



# ALLIED HEALTH

## ALLIED HEALTH RESEARCH

DIRECTOR: SANDRA GATES

Research in the Allied Health and Clinical Support Services is continuing to develop and gain momentum at the Women's.

*Departments such as Pharmacy and the Pauline Gandel Women's Imaging Centre play a pivotal role in research conducted by other services.*

Several research projects either started or were completed in 2014 and continue to be undertaken within single disciplines or across multiple services.

Departments such as Pharmacy and the Pauline Gandel Women's Imaging Centre play a pivotal role in research conducted by other services, and without their participation these projects wouldn't be possible.

We encourage our staff to build their research capacity and several clinicians participated in research for the first time in 2014, expanding the pool of staff with such experience in the Allied Health and Clinical Support Services.

### PHARMACY

The goal of the Pharmacy department is to lead in the best use of medicines in the Women's specialty areas: maternity, gynaecology and the care of newborns.

In clinical research Pharmacy undertakes various roles: proposing therapeutic options in the design of research projects; monitoring and reporting adverse events to investigators; collecting data and presenting reports based on pharmacists' interventions; and managing and keeping accountability records for clinical study materials.

### NUTRITION AND DIETETICS DEPARTMENT

Nutrition and Dietetics department research projects are concerned with the impact of nutrition on various clinical conditions and its role in their treatment. We are also investigating how adequate/inadequate food intake affects pregnant women, and knowledge and attitudes to nutrition in pregnancy in the general population.

### SOCIAL WORK

Our research seeks to ensure current practice in areas such as counseling, advocacy and child protection translates to effective interventions. A further aim is to identify and test strategies to help women and their families manage issues that impact on their health and wellbeing.

### PHYSIOTHERAPY

The research conducted by the Physiotherapy department focuses on continence and pelvic floor function in women. Projects include an investigation of post-partum urinary retention risk factors; the implementation of an advanced scope of physiotherapy practice in continence management; and participation in a multi-site randomised controlled trial of a pelvic floor dynamometer using smartphone app and cloud technology.

### RESEARCH SUMMARY

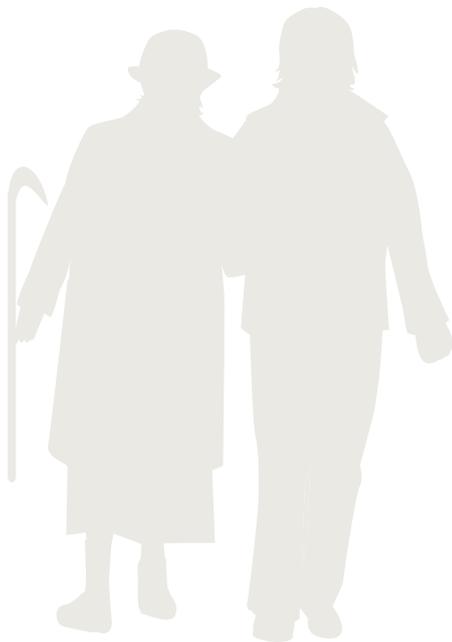
Publications:	2
Grants funding held:	\$90,000
Grants funding spent at the Women's:	\$84,000

### RESEARCH HIGHLIGHTS

#### ACADEMIC PRACTICE RESEARCH COLLABORATION

In 2014, a research partnership was established between the departments of Social Work at the Women's and University of Melbourne. Dubbed the Academic Practice Research Collaboration, it promotes practice research in response to identified issues raised by Social Work staff at the Women's and employs various resources to complete research projects including Masters of Social Work student placements at the Women's and staff mentorship.

Bringing together clinicians, researchers and academics, the collaboration will develop the research capacity of the Social Work staff at the Women's and identify areas of potential research need.





A woman with short blonde hair, wearing black-rimmed glasses and a purple top, is smiling and looking towards the camera. She is in a clinical setting, likely a newborn intensive care unit, with medical equipment and a white curtain visible in the background. The image is overlaid with a pattern of diagonal lines in shades of grey and red.

# MEETING THE EVOLVING NEEDS OF WOMEN AND BABIES IN VICTORIA AND FURTHER AFIELD



# RESEARCH HIGHLIGHTS

## PUBLICATION HIGHLIGHTS 2014

*The Women's is investing in people through research, training and developing communications to improve our research profile.*

A full list of publications is available on the Women's website.

Amir LH. Managing common breastfeeding problems in the community. *BMJ* 2014;348:g2954.

Buchanan DD, Tan YY, Walsh MD, Clendenning M, Metcalf AM, Ferguson K, et al. Reply to J. Moline et al. *J Clin Oncol* 2014;32(21):2278-9.

Buchanan DD, Tan YY, Walsh MD, Clendenning M, Metcalf AM, Ferguson K, et al. Tumor mismatch repair immunohistochemistry and DNA MLH1 methylation testing of patients with endometrial cancer diagnosed at age younger than 60 years optimizes triage for population-level germline mismatch repair gene mutation testing. *J Clin Oncol* 2014;32(2):90-100.

Doyle LW, Anderson PJ, Haslam R, Lee KJ, Crowther C, Australasian Collaborative Trial of Magnesium Sulphate Study G. School-age outcomes of very preterm infants after antenatal treatment with magnesium sulfate vs placebo. *JAMA: the journal of the American Medical Association* 2014;312(11):1105-13.

du Bois A, Floquet A, Kim JW, Rau J, del Campo JM, Friedlander M, et al. Incorporation of pazopanib in maintenance therapy of ovarian cancer. *J Clin Oncol* 2014;32(30):3374-82.

Hickey M, Ballard K, Farquhar C. Endometriosis. *BMJ* 2014;348:g1752.

Manley BJ, Owen LS, Davis PG. High-flow nasal cannulae in very preterm infants after extubation. *N Engl J Med* 2014;370(4):385-6.

Marcus CL, Meltzer LJ, Roberts RS, Traylor J, Dix J, D'Ilario J, et al. Long-term effects of caffeine therapy for apnea of prematurity on sleep at school age. *American journal of respiratory and critical care medicine* 2014;190(7):791-9.

Parkington HC, Stevenson J, Tonta MA, Paul J, Butler T, Maiti K, et al. Diminished hERG K<sup>+</sup> channel activity facilitates strong human labour contractions but is dysregulated in obese women. *Nature communications* 2014;5:4108.

Schmidt B, Davis PG, Asztalos EV, Solimano A, Roberts RS. Association between severe retinopathy of prematurity and nonvisual disabilities at age 5 years. *JAMA: the journal of the American Medical Association* 2014;311(5):523-5.

Skinner SR, Szarewski A, Romanowski B, Garland SM, Lazcano-Ponce E, Salmerón J, et al. Efficacy, safety, and immunogenicity of the human papillomavirus 16/18 AS04-adjuvanted vaccine in women older than 25 years: 4-year interim follow-up of the phase 3, double-blind, randomised controlled VIVIANE study. *The Lancet* 2014;384(9961):2213-27.

Tabrizi SN, Brotherton JM, Kaldor JM, Skinner SR, Liu B, Bateson D, et al. Assessment of herd immunity and cross-protection after a human papillomavirus vaccination programme in Australia: a repeat cross-sectional study. *The Lancet. Infectious diseases* 2014;14(10):958-66.

Webb S, Sherburn M, Ismail KM. Managing perineal trauma after childbirth. *BMJ* 2014;349:g6829.

Zou H, Tabrizi SN, Grulich AE, Hocking JS, Bradshaw CS, Cornall AM, et al. Site-specific human papillomavirus infection in adolescent men who have sex with men (HYPER): an observational cohort study. *The Lancet Infectious Diseases* 2014;15(1):65-7.

# STUDENT COMPLETIONS 2014

## DOCTOR OF PHILOSOPHY (PhD)

Boland R. PhD, University of Melbourne. What is the relationship between morbidity and mortality in very preterm infants born outside of tertiary perinatal centres? The PREDICTION study.

Chau S. PhD, University of Melbourne. The role of chemokines in vessel remodelling during pregnancy.

Lin, X. PhD, University of Melbourne. Older parent-child relationships and their associations with older people's psychological wellbeing: a comparison of Australian-born people and Chinese immigrants.

Liong S. PhD, University of Melbourne. Identification of novel biomarkers in the cervicovaginal fluid to predict preterm birth.

Manley B. PhD, University of Melbourne. High-flow nasal cannulae for respiratory support of preterm infants.

Olsen J. PhD, University of Melbourne. Neurobehavioural trajectories of infants born <30 weeks' gestation from birth to term equivalent age: Are preterm general movements related to neurobehavioural outcome at term equivalent age?

Thompson, J. PhD, Deakin University. Attributions of responsibility following motor vehicle accidents.

Unkenstein, A. PhD, University of Melbourne. Memory functioning during the menopausal transition: subjective experience and objective performance.

## MASTERS OF SCIENCE (MSc)

Nguyen T. MSc. The University of Melbourne. How does Vitamin D receptor regulate fetoplacental growth?

## SCHOLARLY SELECTIVE RESEARCH STUDENT MD

Bondorovsky A. University of Melbourne. In-hospital obstetric care and outcomes.

Chambers E. University of Melbourne. Pharmacological treatment of eclampsia - 5 year retrospective study of cases at the Royal Women's Hospital.

Dowling J. University of Melbourne. In-hospital obstetric care and outcomes.

Early S. University of Melbourne. Pharmacological interventions for pain relief after caesarean delivery in women with pre-eclampsia.

HealSmith S. University of Melbourne. In-hospital obstetric care and outcomes.

Knights A. University of Melbourne. In-hospital obstetric care and outcomes.

Langeland C. University of Melbourne. BMI and Folate in Pregnancy.

Mulligan S. University of Melbourne. Analgesic requirements and pain experience after caesarean section under neuraxial anaesthesia women with pre-eclampsia.

Nguyen M. University of Melbourne. The Vaccine Against Cervical Cancer Impact and Effectiveness Study (VACCINE).

Rangiah C. University of Melbourne. Acceptance of delaying cervical screening to 25 years of age: attitudes of young women and health providers.

Smith L. University of Melbourne. In-hospital obstetric care and outcome.

## HONOURS

Grant C. BSc (Honours), University of Melbourne. Decidua Mesenchymal Stem Cell-Derived Exosomes; Comparison of Preparation Methods, and Capacity to Repair Endothelial Cell Damage.

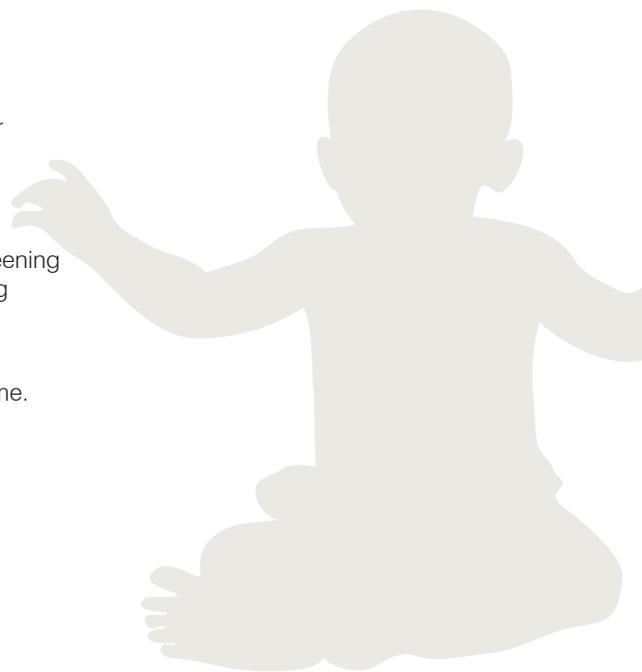
Liang X. Honours, University of Melbourne. Cervical Screening Acceptance Study: Physicians.

Ranjithakumaran H. Honours, University of Melbourne. Fertility Preservation in children and adolescents with cancer.

Scobie A. Honours, University of Melbourne. Factors associated with self-perception of body image in young women.

Sloss S. BMSc (Honours), University of Melbourne. A feasibility study to measure lung injury markers in preterm infants at birth. The Marker Trial.

White L. BMSc (Honours), University of Melbourne. Measuring oxygenation in the Delivery Room (The MOD study).



## RESEARCH FUNDING

*The Women's excellence in research is highlighted by over \$7m in NH&MRC grants in 2014.*

### NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL (NH&MRC) GRANTS 2014

#### PROGRAM GRANTS

Hooper S, Davis P, Doyle L, Harding R, Cole T, Moss T. Improved respiratory support and outcomes for very preterm babies. \$8,560,000; 2011-2015

Kaldor JM, Garland SM, Fairley CK, Law MG, Grulich AE. Sexually transmitted infections: Causes, consequences and interventions. \$9,100,000; 2010-2014

#### CENTRE FOR CLINICAL RESEARCH EXCELLENCE

Doyle LW, Davis P, Anderson P, Hunt R, Cheong J, Jacobs S, Roberts G, Spittle A, Thompson D, Dawson J. Centre for Research Excellence in Newborn Medicine. \$2,500,000; 2014-2018

#### PROJECT GRANTS

Bradshaw CB, Tabrizi SN, Hocking J. Investigation of candidate aetiologic organisms of bacterial vaginosis in diverse and unique epidemiological and clinical studies. \$546,175; 2012-2014

Cheong J, Anderson P, Hunt R, Lee K, Seal M, Spittle A, Thompson D, Doyle L. The burden of late preterm birth on brain development and 2 year outcomes - a prospective, longitudinal cohort study. \$804,220; 2012-2015

Collins C, Thio M, Gibson R, Makrides M, Davis P. Docosahexaenoic Acid For The Reduction Of Bronchopulmonary Dysplasia In Preterm Infants Born At Less Than 29 Weeks Gestational Age: A Randomised Controlled Trial. \$1,870,914; 2012-2014

Crosbie, J. A Computerised Treatment Planning System for Synchrotron Radiotherapy Trials at the Australian Synchrotron Imaging & Medical Beamline. \$624,537; 2014-2016

Dargaville P, Kamlin O, Davis P. Randomised controlled trial of minimally invasive surfactant therapy in preterm infants 25-28 weeks gestation on continuous positive airway pressure. \$1,172,977; 2013-2017

East CE, Brennecke SP, Davey M-A, Kamlin CO. Fetal lactate measurement to reduce caesarean sections during labour: a randomised trial. \$369,900; 4 years

Forster D, Jacobs S, Amir L, Davis P, Walker S, McEgan K, Opie G. Diabetes & antenatal milk expressing (DAME): a randomised controlled trial. \$491,321; 2011-2014

Giffard P, Andersson P, Holt D, Thomson N, Singh G, Boylan P, Ryder N, Douglas C, Taylor H, Martin L, Tabrizi SN, Garland SM, Johns T, Hudson C, McCann F. Systematic investigation of conceivable mechanisms that could lead to false positive diagnoses of sexually transmitted infections in young children. \$978,040; 2014-2016

Guy R, Ward J, Whitley D, Donovan B, Wilson D, Regan D, Wand H, Tabrizi SN, Shepard MA. A randomised trial of rapid point-of-care tests for chlamydia and gonorrhoea infections in remote Aboriginal communities. \$758,020; 2011-2014

Halliday J, Meiser B, Amor D, Forster D, Slater, Smith S, Donath, Walker S, Lewis. Towards adequate national provision of genomic testing in pregnancy. \$504,350; 2014-2015

Halliday J, O'Leary C, Forster D, Donath S, Anderson P, Lewis S, Elliot E, Nagle C, Jeffrey C. Asking Questions about Alcohol in pregnancy (AQUA): Longitudinal cohort study of the effects of low and moderate doses of alcohol exposure on the fetus. \$1,316,444; 2011-2015

Hickey M, Mitchell G, Wark J, Meisser B. What happens after surgical menopause (WHAM). \$495,335; 2013-2015

Hickey M, Rogers P, Girling J. Mechanisms of Heavy Menstrual bleeding (MOB). \$53,7000; 2011-2014

Hickey M. Advancing and promoting midlife health for women. \$452,004; 2014-2019

Hickey M. Neural basis of the thermal instability that leads to menopausal hot flushes. \$319,462; 2013-2015

Hocking J, Chen M, Tabrizi SN, Huston W, Trimms P, Guy R. Evaluation of chlamydia trachomatis treatment failure: a cohort study of women. \$735,992; 2012-2014

Homer C, Elwood D, Oats J, Foureur M, Sibbritt D, McLachlan H, Forster D, Dahlen, H. Birthplace In Australia: A Prospective Cohort Study. \$790,175; 2012-2015

Hunt R, Colditz P, Inder T, Badawi N, Simmer K, Liley H, Osborn H, Cheong J, Wright I. A study of the impact of treating electrographic seizures in term of near-term infants with neonatal encephalopathy. \$1,301,309; 2011-2014

Jacobs SE, Cheong J, Garland SM, Donath S, Opie G, Hickey L. Investigating the effects of probiotics on the neurodevelopmental outcomes of preterm infants. \$1,033,092; 2012-2014

Montgomery G, Dinger M, Rogers P, Painter J, Nyholt D. Endometriosis: defining mechanisms for novel risk loci on chromosomes 7p15.2 and 1p36. \$592,350; 2012-2014

Moses E, Blangero J, Brennecke SP. Identification of protein altering variants influencing pre-eclampsia risk. \$553,794; 3 years

Parkington H, Brennecke S. Understanding uterine contractility: what can we learn from obesity? \$580,055; 3 years

Said J, Murthi P, Brennecke SP, Ignatovic V, Monagle P. The role of placental proteoglycans in contributing to human fetal growth restriction. \$361,032; 3 years

Skinner R, Cooper S, McCaffery K, Zimet G, mcGeehan K, Whyte P, Regan D, Brotherton J, Mitchell A, Kaldor J, Kang M, Garland SM. Randomised Controlled evaluation of a complex intervention to promote uptake of school-based HPV Vaccination. \$724,000; 2012-2014

Spittle AJ, Thompson DK. Neurobehaviour between birth and 40 weeks in infants born <30 weeks' gestation: predictors of brain development and later neurodevelopmental outcome. \$800,020; 2012-2015

Wark J, Howard S, Reavley N, Pirota M, Varigos G, Garland SM. Improving Vitamin D status and health in young women. \$587,813; 2013-2015

Whitehouse A, Dissanayake C, Maybury M, Hickey M, Pennell C. Early risk factors for autism spectrum disorders. \$671,928; 2011-2016

#### **PARTNERSHIP GRANTS**

Kavanagh A, Hewitt B, LaMontagne A, Keogh L A, Judd F, Gurrin L, Bentley R J, Bevilacqua M, Thomson L. Does access to paid parental leave improve young mother's social and economic participation and mental health. \$582,235; 2012-2016

#### **PERSONAL SUPPORT**

Cheong J. *Early Career Fellowship*: Aberrant brain development and long-term outcomes in high risk newborns. (0.5 EFT) \$179,782; 2013-2016

Crosbie, J. *Early Career Fellowship*: Translating pre-clinical synchrotron microbeam radiation therapy into a clinical reality for Australian cancer patients. \$323,868; 2012-2015

Dawson J. *Post-doctoral training fellowship*: Monitoring oxygen saturation and heart rate in the early post natal period. \$270,000; 2011-2015

Jacobs S. *Early Career Fellowship*: \$182,299; 2014-2018

Kamlin CO. *Early Career Fellowship*: \$182,299; 2014-2018

Paiva, P. *Early Career Development Fellowship*: Understanding the mechanisms underlying major female reproductive disorders. \$361,540; 2011-2014

Spittle AJ. *Early Career Fellowship*: Improving neurodevelopmental outcomes of preterm infants. \$299,569; 2013-2016

Teh W. *Clinical postdoctoral scholarship*: Uterine control of embryo implantation. \$112,791; 2013-2015



*The Women's is ideally placed to lead national and international clinical trials.*

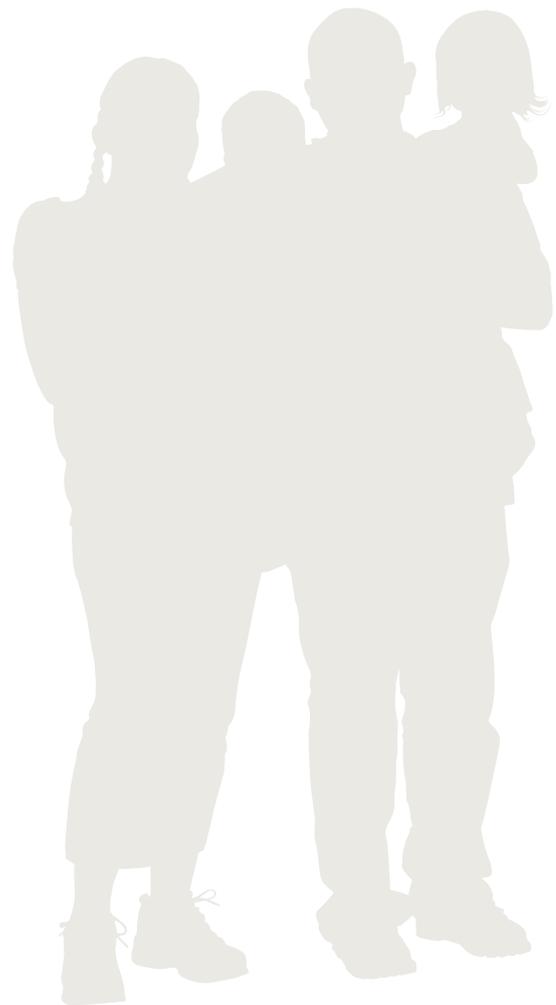
## CLINICAL TRIALS

The Women's is committed to improving the health and wellbeing of women and newborns through research and innovation.

Clinical trials are an essential component of the Women's research program and are important in the development of new treatments. It is through our program of clinical trials that the Women's is constantly improving health outcomes for women and babies.

As the largest specialist public hospital for women in Australia, the Women's is ideally placed to lead national and international clinical trials.

During 2014, over 60 clinical trials were actively recruiting at the Women's. These clinical trials were across research areas including newborn, infection, pregnancy, gynaecology, midwifery, women's cancer, anaesthetics and mental health research.



## ACKNOWLEDGEMENT OF TRADITIONAL OWNERS

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The Royal Women's Hospital acknowledges and pays respect to the Kulin Nations, the traditional owners of the country on which our sites at Parkville and Sandringham stand.

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the royal women's hospital  
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